U.S. FOREST SERVICE

NORTHERN REGION

DIVISION OF STATE AND PRIVATE FORESTRY

INSECT AND DISEASE REPORT

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EVALUATION OF DOUGLAS-FIR BEETLE INFESTATIONS ON THE CLEARWATER DISTRICT, NEZPERCE NATIONAL FOREST, IDAHO

by

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An extensive infestation of the Douglas-fir beetle, Dendroctonus pseudotsugae Hopk. was detected in the South Fork of the Clearwater River Drainage in May 1971, by Clearwater District Ranger J. Abbott. An evaluation of these infestations was conducted June 18, 1971, by personnel of the Forest Insect and Disease Branch.

SURVEY METHODS

An aerial survey was made of forested areas in the South Fork of the Clearwater Drainage from the Forest boundary, south and east to Huddelson's Bluff. Locations of all groups of red or fading Douglas-fir were mapped for field checking. Infestations were field checked in Grouse Creek, Lightning Creek, and the Cove. Trees suspected of being attacked in 1971 were felled and examined for broad development.

RESULTS

Location and Intensity of Infestations. Infestations occur over a gross area of about 17,000 acres. These are located along the South Fork of the Clearwater River from Cotter Bar east to Hungry Ridge. Additional localized infestations occur near the summit of Blacktail Butte and in Lightning and Schwartz Creeks (Figure 1). Infestations range in size from single tree kills to groups of several hundred trees.

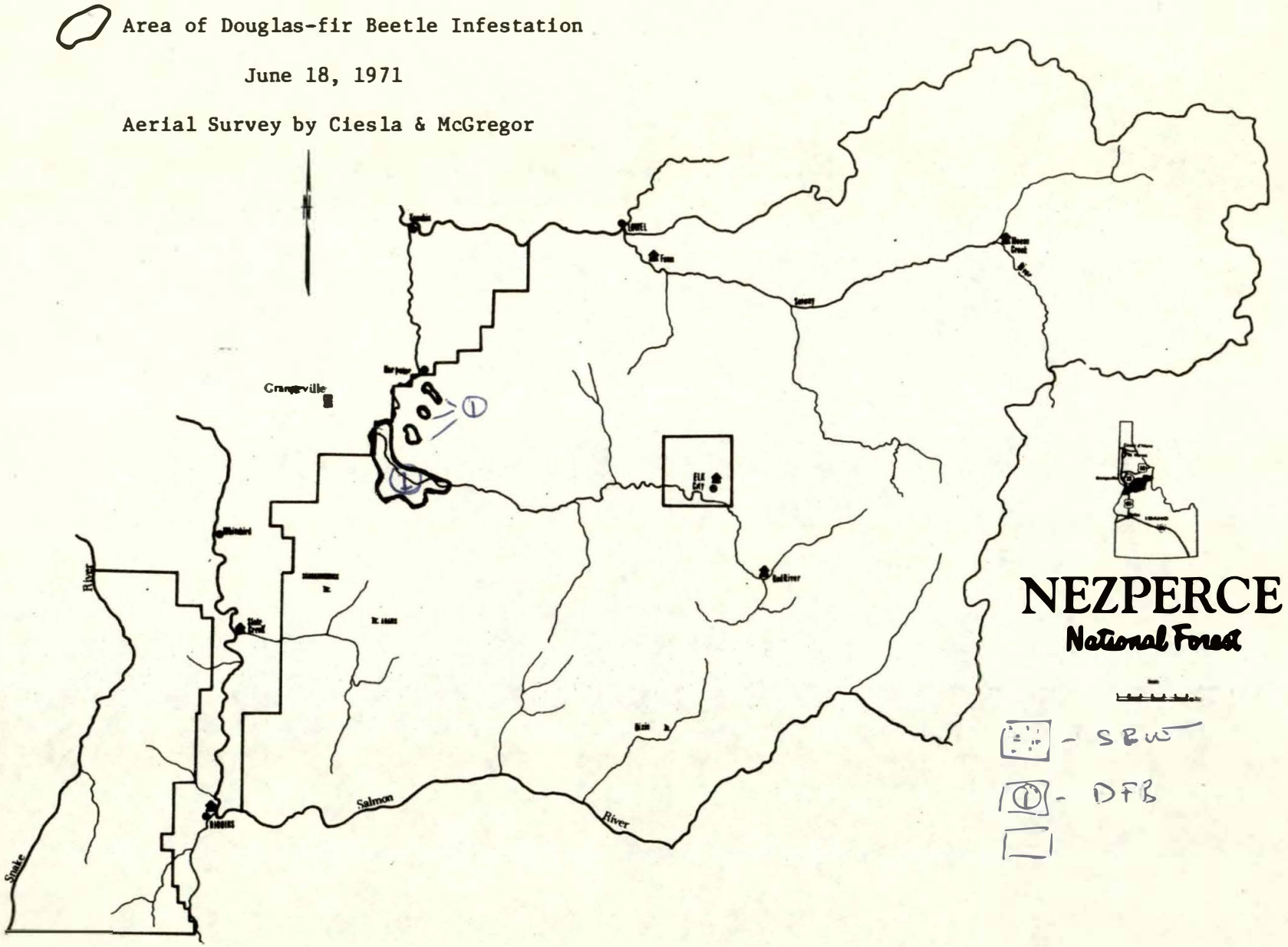
Biological Data. Detailed ground examinations revealed that trees which at first appeared to be 1971 attacks were in fact 1970 attacks. Many 1970 attacks occurred in a relatively narrow zone on the bole from 9 to 25-feet. Attacks above and below this zone were usually unsuccessful. Many of these trees had not faded at the time the observations were made, probably due to high rainfall in May and June.

The 1970 brood was heavily parasitized by Coeloides brunneri. Up to 100 percent parasitism of individual colonies was noted as evidenced by the presence of Coeloides cocoons at the end of the larval galleries.

Only one 1971 attack was observed. This occurred in the lower bole of a tree initially infested in 1970. Parent adults were in the process of egg gallery construction and oviposition. Numerous flatheaded borers (Family Buprestidae) were observed in this same zone. These outnumbered the Douglas-fir beetle galleries by a ratio of 5:1. Interspecific competition between flatheaded borers and Douglas-fir beetle larvae will probably have a detrimental impact on the 1971 Douglas-fir beetle brood.

Discussion and Recommendations. Based on the above observations a decline in Douglas-fir beetle activity is predicted for the South Fork of the Clearwater drainage. Additional trees will fade in the areas of infestation due to the 1970 attacks; however, 1971 infestation levels should be negligible. No direct control action is required because the infestation has apparently collapsed due to natural causes. Trees killed during the past several years should be salvaged to partially recover losses wherever this is economically feasible.

Figure 1


Area of Douglas-fir Beetle Infestation
June 18, 1971
Aerial Survey by Ciesla & McGregor
Grangeville
Salmon River
Snake River
NEZPERCE
National Forest
- SBW
- DFB